GROUP COHESIVENESS AND CONFLICT AS CONTRIBUTOR TOWARDS CREATIVE SYNERGY AND WORK PERFORMANCE IN SOFTWARE INDUSTRY OF PAKISTAN

[1]KHALIL AHMAD, [2]MOMINA ADNAN, [3]ZULQARNAIN UMAIR

National University of Computer and Emerging Sciences CFD Campus Pakistan
E-mail: [1]Khalilahmad24@hotmail.com, [2]mominaadnan@hotmail.com, [3]zulqarnainumair@gmail.com

Abstract - In today's competitive world no two minds are alike everybody has his own ways and means to tackle day to day problems. Every problem in workplace have hundreds of solutions. When employees with diverse background work together to achieve the given target. Than conflict arises in these work groups. It is due to heterogeneity between employee's personal opinions. Same in the case of group cohesiveness. It acts like a force which keep all the group members together. Group cohesiveness and group conflicts may disturb the creative synergy factor in a work group.Objectives of that research is to find out the role of group cohesiveness and conflict in work groups and how these factors contribute the creative synergy and work performance. Previously, little attention has been given to these variables by the researchers. Software industry of Pakistan is chosen as our target population for this research. There are 15321 employees working in targeted software industry as per the initial estimations. Based on this, a statistically justified and representative sample of 382 is collected using convenience sampling. Data was analyzed by using SPSS version 20 for windows. Responses collected through structured questionnaire distribution is analyzed using statistical techniques such as frequency distribution, correlation and regression analysis. Results indicates that group cohesiveness and conflict positively predicts work performance and creative synergy partially mediates the relationship between group cohesiveness and conflict and work performance. Finding of the study will be utilize by executives and IT professions in the software industry of Pakistan. In addition, study findings can be employed to identify solutions to the related human resource problems in software industry of Pakistan.

Index Terms - Cohesiveness, Conflict, Heterogeneity, Synergy

I. INTRODUCTION

Group work has great contribution in work performance in many organization. It is impossible to imagine an organization without conflict. Having conflict is something very normal in any organization where healthy minds exist because two normal people may have different options about resolving an issue, but there are people who cannot accept any alternate solution for their proposal. This may have many reasons which can be taken as genuine and fake at the same time but it may hamper the efficacy and ultimately the proficiency of the organization. Imbalance would result into a conflict which can be graded as inadequate performance. Resolving conflict can also be said as key to enhance learning process, group outcome, effectiveness, and a creative performance. Group cohesiveness and rational conflict with a will to resolve can contribute to create synergy between members of that group. Result may be excellent work performance. Organizational culture, family support, workload, technical risk, additional role and quick learning of new technology creates job stress in groups. It kills the creativity and may results in poor work performance (Rashidi and Jalban (1)i 2009). Synergy is when group of people makes efforts then they can achieve more goals as compared to the individual efforts.

In this modern era, people work together in groups to achieve different types of goals. These groups consist of people with different personalities. So, a combination of conflict and group cohesiveness are linked to achieve the creative synergy and performance of the group. Group conflict can lead to work performance and creative synergy in both ways. Group cohesiveness can have strong effect on work performance. These are widely recognized by past researchers individually or with some other variables. None of them uses creative synergy to check the effect of group cohesiveness and conflict on work performance. Kochan, Bezrukova et al. (2003) check the gender diversity on performance in US companies. Forsyth (1990) discovered that cohesiveness in groups leads to enjoyment but not creativity. Steers (1977) concludes that organizational commitment is not related to job performance. Bahtijarevic Siber (1993) noted that conflict have both positive and negative effects on organizations. None of these researchers studied group cohesiveness and conflict together to check and analyze their effect on creative synergy and work performance particularly in the context of Pakistan.

II. LITERATURE REVIEW

Group Cohesiveness: Every member of the team would like to join the winning side;however, members of highly cohesive group would be motivated to gain more. Thus, a cohesive group is a double-edged weapon which may have negative or positive impact on task performance. Yalom and Leszcz (2005) defined group cohesiveness as a force which acts on members to stay in the group. Cohesiveness must be core part of group while they are working on a common goal. Group members feel involved and

rewarded in most of cohesive groups (Hornsey, Dwyer et al. 2009). Presence of cohesiveness in groups is core part with group experience in medical field (Pan and Lin 2004, Yalom and Leszcz 2005, Reimer and Mathieu 2006).

There is a common proverb, "All teams are groups but not all groups are teams". So, there are some dimensions of group cohesiveness given by (Dion 2000, Burlingame, Fuhriman et al. 2001, Norcross 2002, Johnson, Burlingame et al. 2005). These include multilevel relationships, task and social cohesiveness and vertical and horizontal cohesiveness.

Cohesiveness in the work groups is more because the members are more careful about the task assigned. Well summarized by Forsyth (2006) that a cohesive group would demonstrate strong emotional social task and attraction which would enable them to work together thus producing qualitative decision. It has been proved that convection of the members will correlate to the shape of decision made by the group (Bartis and Mitev 2008).

Cohesiveness and Performance have been examined at groups level and meta-analyses conducted on their relationship shows a growing trend (Evans and Dion 1991, Mullen and Copper 1994, Chiocchio and Essiembre 2009, Gully, Devine et al. 2012, Pescosolido and Saavedra 2012). Researcher also argued that performance leads to cohesiveness (Mullen and Copper 1994). and group cohesiveness leads to performance (Chang and Bordia 2001). The nature of cohesiveness groups reflects level of communication and bonding among group members and results in task, role commitment, group pride and interpersonal attraction (Rosh, Offermann et al. 2012). Group pride positively affects the relationship between performance and cohesiveness (Rosh, Offermann et al. 2012). Studies show positive and negative effect of group cohesiveness and performance. So, group cohesiveness is really a complex phenomenon (Hornaday 2014). Chiocchio and Essiembre (2009) conducted meta-analysis of cohesiveness and performance by using group type to distinguish the cohesiveness-performance correlations. Lohan, Acton et al. (2014) did research on group cohesiveness with decision making in software development groups. Soboroff (2012) discussed group cohesiveness with group size and commitment of group. Owen, Antle et al. (2013) deliberate group cohesiveness with relationship education. Group cohesiveness is analyzed with performance (Huang 2009, Evans and Dion 2012, Harun and Mahmood 2012). Schwanda, Barron et al. (2011) focused on cohesiveness in virtual groups. Wang and Huang (2009) investigated group cohesiveness with emotional intelligence and transformational leadership. Quoidbach and Hansenne (2009) analyzed cohesiveness with emotional intelligence. Group cohesiveness is studied by many researchers in past (Huang 2009, Quoidbach and Hansenne 2009, Wang and Huang 2009, Schwanda, Barron et al. 2011, Evans and Dion 2012, Harun and Mahmood 2012, Owen, Antle et al. 2013).

Group Conflict: Besides cohesiveness, group conflict can have devastating effect on the performance of the organization. In most of the organizations, there is a communication gap between hierarchy. This can lead to conflict. By following decentralized communication, chances of conflict can be minimized. Conflict is a process of social collaboration, where interests and actions of members oppose, block and inactivate the understanding of group's objectives (Jambrek and Penić 2008). Conflict occur, when people involve in those activities which are not acceptable by group or people who use the services or products of the organization for different purposes (Rahim 2002). Rahim (2002) conceptualizes conflict as an interactive process displayed in disagreement, or conflict between individual groups and organizations.

Conflict can create hurdles for the group members to converge on the organizational goals. Everyone in group starts focusing on personal interest. Which can lead to unsolved conflict. There are people who cannot accept any alternate solution for their proposal. It may hamper the efficacy and ultimately the proficiency of the group. Group conflict kill the creativity and may result in poor work performance (Rashidi and Jalbani 2009). Conflict is a condition in which people experience a clash of wishes (Dictionary 2010). In conflict, inconsistency in opinions is must. Good example is points of view on job responsibilities from employees. Sometimes managers can ask for additional tasks to be done as a part of organizational team performance which might be considered as inappropriate (Behrman, 2012).

Relationship Conflict: Focus on personal issues between group members such as personality differences, values, norms, and attitudes etc. These conflicts became dominant after physical interaction (De Dreu and Van Vianen 2001, Jehn and Bendersky 2003). It blocks the thinking capacity of an individual to solve problems (Roseman, Wiest et al. 1994, Pelled 1996, Simons and Peterson 2000). Relationship conflict also interferes with more productive information processing (Simons and Peterson 2000). The personal negative characteristic of relationship conflict encourages breach of contracts (Jehn & Bendersky, 2003).

Task Conflict: Differences among members regarding task being performed. Moderate levels of task conflict can be useful for performance like nonroutine tasks and innovative tasks (De Dreu 2006). Past researches show that both task and relationship conflict have negative effect on group performance

(De Dreu and Weingart 2003). Group work activities includes actual task and process of doing the task to achieve goals (Hinds and Bailey 2003). Both of these conflict falls under task conflict (Simons and Peterson 2000, De Dreu and Weingart 2003). Task conflict positively affect the work performance as differences in task issues can leads to cognitive thinking (Simons and Peterson 2000, De Dreu 2006). Disagreements about logistical and delegation issues fall under process conflict. Process conflict has its own dynamics than other conflict types (Jehn 1997, Jehn and Mannix 2001, Hinds and Bailey 2003, Greer and Jehn 2007, Jehn, Greer et al. 2008).

Jehn, Greer et al. (2008) studied conflict with group outcomes. Jehn, Greer et al. (2008) also checked the group conflict with work place diversity. Jehn, Rispens et al. (2010) worked on link between conflict irregularity on individual/work group outcomes. (Matsuo 2006) checked the relation between customer orientation and innovation with the help of conflict. Kotlyar and Karakowsky (2006) concluded that leadership behavior also effects the cognition and conflict between group members. According to Hon and Chan (2013) group conflict and stress effect work performance in both way. According to (Kankanhalli, Tan et al. 2006), studied global virtual teams conflict and circumstances under which conflict affects group (Li, Chun et al. 2012) works on how group leader is affected by conflict and emotional stability. Hsu and Chou (2009) measured the effect of collaboration between virtual team members on theconflict and network structure of virtual groups. Lewis and Smith (2008) tested the impact of problem solving preferences on group conflict and performance. Kranton, Pease et al. (2012) studied group conflict with identity and social preference. Further research can be done to fill that gap to analyze link between these variables.

Creative Synergy: Creativity is a core part of human progression and with that, society is able to address the numerous problems that the world faces each and every day (Amabile and Pillemer 2012). Creativity is the first step towards innovation. It is essential to develop new things while innovation, implementation and application of ideas (Amabile, Conti et al. 1996, West 2002). In many organizations, teams are formed in order to achieve highest success. The way of utilizing these teams in organizations clearly shows that high level of expectations is demanded from teamwork to get advantages from organization's process and output (Hertel 2011). According to (Harwood 2013). The word "synergy" comes from Greek word synergos, which means working together in a team or group to achieve common group goals or targets. Many researchers defined synergy in various ways. Greek philosopher Aristotle's famous quote says "the whole is more than the sum of its parts". According to (Larson 2007, Larson 2010), group synergy refers to an achievement in group performance as compared to sum of individual performances that is attributable to group interaction. According to (Holtzman, Puerta et al. 2011), good team will give extra value to the company by uniting strengths and synergies of individuals to make whole is greater than sum of its parts. Companies want collaboration when they decide for making work teams (Larson 2010). Group synergy as a goal attain in group as compared to total individual efforts (Larson 2007, Larson 2010). Ram, Khoso et al. (2011) said successful collaboration in group will leads to creative and innovative solutions.

Creative synergy is a type of group synergy and is defined as same as group synergy except that it has to do with the group performance revolving specifically around ideational tasks and the group of creative ideas. Creative synergy refers to a performance output due to group interaction when working on idea-generation tasks (Kurtzberg 2005, Larson 2010). Kurtzberg and Amabile (2001) also explain creative synergy as resulting from the simultaneous forming, sharing, adapting, and inspiring of ideas by a group. Group cognitive synergy is defined by (Curşeu 2006, Curşeu, Schruijer et al. 2007) as group level cognitive structures that emerge from the interactions among group members and the growth of their individual cognitive structures. And group cognitive complexity is a measure of group cognitive synergy (Curşeu, Schruijer et al. 2007, Curşeu, Schalk et al. 2010). It occurs at the group level where the ideas are generated by groups instead of individuals. This distinction of creative synergy is the basis for understanding the performance gains in teamwork when the tasks involve creativity and the pool of ideas. So, creative synergy plays critical role in group work. In general, synergy is described as increased performance by sharing skills and other assets of an organization. Synergy may yield higher joint return on resources than the sum of individual efforts. In order to further explain that, firm's overall performance may be greater than the simple aggregate of parts. In previous research Curseu and Schruijer (2012) concluded that group norms create group synergy that ultimately leads to the better decision quality, and higher group rationality. Paulus and Yang (2000) studied creative synergy with brainwriting. According to (Haats 2012), speed-storming can affect creative synergy in both ways (positive and negative). The importance of sharing ideas and the forced interactions that occur during speed-storming have been found as potentially supportive factors for the facilitation of creative synergy whereas the existence of evaluation apprehension and the effects of personality as well as the limited interactions derived from the speed-storming protocol have been found as potentially supportive factors for its inhibition.

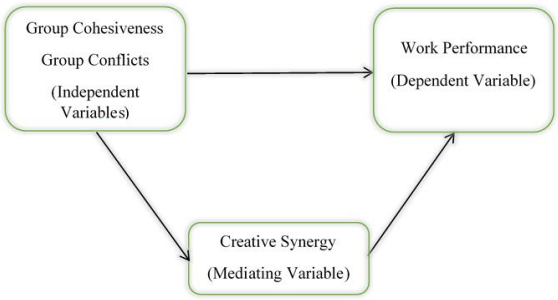
Work Performance:Performance is a belonging of behavior, or, simply stated, what persons do at work (Ellis and Sorensen 2007). (Rafferty, Maben et al.

2005) describes work performance as an individual variable. There are several key features to Campbell's conceptualization of work performance which helps explain what work performance means. Campbell, Sayer et al. (2002) defined performance as a virtual desert. Work Performance has many dimensions. Borman and Motowidlo (1993) clarify both task and contextual performance. Task performance as an individual's skill to accomplishes goals which helps the organization. It has direct (manufacture workers) and indirect influence (employees). Contextual performance refers to actions effect organizational, social, and psychological situation in which organizational goals achieved. Contextual performance contains not only behaviors but also suggestions about how to progress work measures (Morrison and Phelps 1999).

Task Performance: Also, have further five dimensions. Five performance mechanisms given by (Campbell, McHenry et al. 1990, Campbell, Gasser et al. 1996, Motowidlo and Schmit 1999), these five measures the task performance, job specific task talent, non-job specific task ability, written and oral communication ability, supervision in the case of a managerial or leadership position and organization. Each of these features includes a number of sub issues which may vary among non-jobs. Like management factor includes planning, organizing, guiding, directing, motivating, physical activity, training, communication efficiently and keeping others conversant (Borman and Brush 1993). In current years, researchers paid consideration to key facts of task performance. Like modernization and customer oriented behavior become increasingly significant as organizations put greater importance on customer service (Anderson and King 1993, Bowen and Waldman 1999).

Contextual Performance: Comprises organizational nationality behavior with its five workings generosity, thoroughness, public asset, politeness, and sportsmanship (Organ 1988). Some parts of organizational artlessness Like helping colleagues, defensive organization (George and Brief 1992) and organizational behavior (Brief and Motowidlo 1986). The more practical behaviors include personal creativity (Frese, Kring et al. 1996, Frese, Fay et al. 1997, Frese, Garst et al. 2000), voice (Van Dyne and LePine 1998), and taking responsibility (Morrison and Phelps 1999). Thus, contextual performance is not only set of even behaviors, but is in itself a multi-dimensional idea (Van Dyne and LePine 1998).Research shows that engagement and performance are connected to customer satisfaction (Coffman, Gonzalez-Molina et al. 2002, Perrin 2003, Heintzman and Marson 2005, Ellis and Sorensen 2007). Work performance also discussed with partner diversity. Because partner choice is important since retrieving new skills from partners (Hagedoorn 1993, Doz and Hamel 1998). Previous studies reviewed the association among partner appearances and numerous firm performance events. Hagedoorn and Schakenraad (1994) found that association partners are more significant than the complete number of associations. Stuart (2000) found that firms attain higher invention and growth rates when the association partners are larger and have more technical capitals. Goerzen and Beamish (2005) found that variety in Japanese firms' foreign secondary networks in terms of business and country circumstantial had a U-shaped relationship with business performance. Prior studies have found self-efficacy to be linked to both performance (Tierney and Farmer 2002, Choi 2004, Tierney and Farmer 2004, Jaussi, Randel et al. 2007, Shin and Zhou 2007, Gong, Huang et al. 2009) and imagination work connection (Carmeli and Schaubroeck 2007) in employees. Offermann, Bailey et al. (2004), argued that emotional intelligence better forecast performance on student teamwork schemes and on ratings of leadership. While a reasoning aptitude amount better predicted student performance on individual reasoning tasks like tests. Researchers accepting various theoretic viewpoints have maintained that business group ties have performance enhancing benefits for associates (Yiu, Lu et al. 2007). Enchanting up the melody of business groups as a reply to market failures.

III. THEORETICAL FRAMEWORK AND HYPOTHESIS



Theoretical framework includes four variables (Group Cohesiveness, Group Conflict, Creative Synergy and Work Performance). We take group cohesiveness and group conflict as independent variables and work performance as dependent variable. Creative synergy mediated the relationship between group cohesiveness, group conflict with work performance.
In order to answer the above problem statement, we have formulated four different hypotheses as follows:

H1: Group cohesiveness has direct effect on work performance.
H2: Group conflict have direct effect on work performance.
H3: Creative synergy mediates the relationship between group conflict and work performance.
H4: Creative synergy mediates the relationship between group cohesiveness and work performance.

IV. RESEARCH METHODOLOGY

We used GCS scale for measuring group cohesiveness by Van Andel, Erdman, Karsdorp, Appels, & Trijsburg, (2003). It consists of 25 items. Relationship conflict scale developed by Jehn (1994, 1995).Task conflict scale developed by Jehn (1994, 1995).The Jones synergy scale is used to measure creative synergy between group members. The eight-item Jones synergy scale showed corrected item-total correlations of 0.6 to 0.7.We used both task and contextual performance scale in order to measure performance of employees.Our research is quantitative because each response was assigned a specific number in order to quantify the results. Quantitative research methods attempt to maximize objectivity, reliability, and generalize ability of findings.

Population of this study was comprised of employees in software houses of Lahore. In this study, we choose IT professionals as our population because they mostly work in a group to achieve common goals. We targeted only those software houses in Lahore, which are listed in P@SHA. It is a regulatory authority which controls all the IT industry in Punjab. Total population of software houses in Lahore is 15321.The sampling size used for this study was comprised of 375 employees of the software houses in Lahore. We used (Krejcie and Morgan 1970) formula to calculate sample size. Formula is [s=X2 NP (1-P) d2 (N-1) + X2P (1-P)].Convenient sampling is used in this research paper.

Research questionnaire consists of total six measurement scales. Each scale helps to measure some specific variable dimensions. Group cohesiveness scale consists of 25 items. All items are used to measure the group cohesiveness in software development groups. Likert scale (1=strongly disagree to 5=strongly agree) is used in all items. It helps to measure the cohesiveness within group members. Creative synergy scale helps to measure level of synergy between members of group. 8 items scale is used to measure creative synergy. Standard Likert scale (1=strongly disagree to 5=strongly agree) is used to measure these responses.Task performance scale comprises of 13 items. Each item uses Likert scale (1=strongly disagree to 5=strongly agree) to measure their impact on IT professionals.

Contextual performance scale is used to measure impact. 16 items are used to measure contextual performance of IT professionals. All items are measured on Likert scale (1=strongly disagree to 5=strongly agree).Relationship conflict scale includes total 4 items. Each item is used Likert scale to measure the impact of conflict on groups.Task conflict focuses on 3 items to measure the task conflict between software groups.

V. RESULTS

Correlation Analyses: Pearson correlation is conducted to examine the association between study variables as presented in Table 1 (see Appendix). Group conflict measured through group cohesiveness, creative synergy and work performance are moderate positively correlated with each other r = .491, p = 0.000, r = .516, p = 0.000 and r = 633, p = 0.000 respectively. Variables measuring group cohesiveness showed moderate positive associations with each other because correlation coefficients between group conflict, creative synergy and work performance were r = .491, p = 0.000, r = .607, p = 0.000 and r = .635, p = 0.00, respectively. Creative synergy has moderate co relation with group conflict (r = .491, p = 0.000). but creative synergy and work performance are highly correlated with group cohesiveness r = .609, p = 0.000 and r = .649, p = 0.000 respectively. Creative synergy is highly correlated with group cohesiveness and work performance in positive way r = .607, p = 0.000 and r = .635, p = 0.000. But creative synergy has moderate relationship with group conflict (r = .516, p = 0.000). Lastly work performance shows high correlation with other variables like group conflict, group cohesiveness and creative synergy r = .633, p = 0.000, r = .649, p = 0.000 and r = .635, p = 0.00 respectively. Because of high positive correlation between group cohesiveness and work performance (r = .649, p = 0.000), it satisfies our Hypothesis 1. Group conflict and work performance are also positively correlated with each other (r = .633, p = 0.000). So, Hypothesis 2 is also gratifying.

Correlation Analysis of all Study Variables

Correlations

		Group Conflict	Group Cohesiveness	Creative Synergy	Work Performance
Group Conflict	Pearson Correlation	1	.491**	.516**	.633**
	Sig. (2-tailed)		.000	.000	.000
	N	382	382	382	382
Group Cohesiveness	Pearson Correlation	.491**	1	.607**	.649**
	Sig. (2-tailed)	.000		.000	.000
	N	382	382	382	382
Creative Synergy	Pearson Correlation	.516**	.607**	1	.635**
	Sig. (2-tailed)	.000	.000		.000
	N	382	382	382	382
Work Performance	Pearson Correlation	.633**	.649**	.635**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	382	382	382	382

**. Correlation is significant at the 0.01 level (2-tailed).

To test the hypothesis 1, we used simple linear regression model by taking group cohesiveness as predictor variable and work performance as dependent variable. In table 11, It is observed that group cohesiveness positively predicts work performance as b=.687, p = 0.000. In addition, R-2 value = .419, F = 275.866 indicates that 41.9% variation explained in

work performance is determined by group cohesiveness with. Results of the regression analysis supported hypothesis H1.

Regression Analyses for Group Cohesiveness and Work Performance

Model	B	SE	T	F	R^2	Sig
Constant	1.135	.127	8.930	275.866	0.419	.000
Group Cohesiveness	.687	.041	16.609			.000

In order to test the hypothesis 2, simple linear regression model is used by taking group conflict as predictor variable and work performance as dependent variable. In table 12, It is observed that group conflict positively predicts work performance as b=.476, p = 0.000. In addition, R-2 value = .398, F = 253.415 indicates that 39.8% variation explained in work performance is determined by group conflict with. Results of the regression analysis supported hypothesis H2.

Regression Analysis for Group Conflict and Work Performance

Model	B	SE	T	F	R^2	Sig
Constant	1.718	0.097	17.789	253.415	0.398	.000
Group Conflict	0.476	0.030	15.919			.000

To test the hypothesis 3, we used simple linear regression model by taking Group cohesiveness as predictor variable and creative synergy as dependent variable. In table 13, It is observed that group cohesiveness positively predicts creative synergy as b=.809, p = 0.000. In addition, R-2 value = .367, F = 221.704 indicates that 36.7% variation explained in creative synergy is determined by group cohesiveness with. Results of the regression analysis supported hypothesis H3. Regression Analysis for Group Cohesiveness and Creative Synergy

Regression Analysis for Group Cohesiveness and Creative Synergy

Model	B	SE	T	F	R^2	Sig
Constant	0.542	0.167	3.247	221.704	0.367	.000
Group Cohesiveness	0.809	0.054	14.890			.000

In hypothesis 3, we used multiple linear regression model by taking Group cohesiveness as predictor variable and work performance and creative synergy as dependent variable as shown in table 14. It is observed that group cohesiveness positively predicts work performance and creative synergy as b =.441, p = 0.000 and b =.304, p = 0.000respectively. In addition, R-2 value = .510, F = 199.479 indicates that 51% variation explained in work performance and creative synergy is determined by group cohesiveness with. Results of the regression analysis supported hypothesis H3.

Mediation Analysis of Creative Synergy for the Relation between Group Cohesiveness and Work Performance

Model	B	SE	T	F	R^2	Sig
Constant	.970	.118	8.202	199.479	0.510	.000
Group Cohesiveness	.441	.048	9.234			.000
Creative Synergy	.304	.036	8.470			.000

Sobel test is used to check the mediation role of creative synergy on group cohesiveness and work performance. Sobel test values P = 0.002, t = 3.0187 shows that there is partial mediation of creative synergy. Results of Sobel test supported hypothesis H3.

Sobel Test for Mediation Analysis of Creative Synergy

Input:		Test statistic:	Std. Error:	*p*-value:
a 542	Sobel test:	3.01874706	0.17415835	0.00253822
b 970	Aroian test:	2.9996063	0.17526967	0.00270329
s_a 167	Goodman test:	3.03825898	0.17303989	0.00237949
s_b 118	Reset all	Calculate		

To test the hypothesis 4, we used simple linear regression model by taking Group conflict as predictor variable and creative synergy as dependent variable. In table 16, It is observed that group conflict positively predict creative synergy as b=.488, p = 0.000. In addition, R-2 value = .264, F = 137.723 indicates that 26.4% variation explained in creative synergy is determined by group conflict with. Results of the regression analysis supported hypothesis H4.

Regression Analyses for Group Conflict and Work Performance

Model	B	SE	T	F	R^2	Sig
Constant	1.455	.134	10.831	137.723	0.264	.000
Group Conflict	.488	.042	11.736			.000

To test the hypothesis 4, we used multiple linear regression model by taking Group conflict as predictor variable and work performance and creative synergy as dependent variable as shown in table 17. It is observed that group conflict positively predicts work performance and creative synergy as b =.313, p = 0.000 and b =.334, p = 0.000respectively. In addition, R-2 value = .527, F = 213.661 indicates that 52.7% variation explained in work performance and creative synergy is determined by group conflict with. Results of the regression analysis supported hypothesis H4.

Mediation Analysis of Creative Synergy for the Relation between Group Conflict and Work Performance

Model	B	SE	T	F	R^2	Sig
Constant	1.231	.098	12.573	213.661	0.527	.000
Group Conflict	0.313	.031	10.109			.000
Creative Synergy	0.334	.033	10.234			.000

Sobel Test for Mediation Analysis of Creative Synergy

Input:		Test statistic:	Std. Error:	*p*-value:
a 1.455	Sobel test:	8.21454579	0.21804066	0
b 1.231	Aroian test:	8.19968777	0.21843576	0
s_a .134	Goodman test:	8.22948486	0.21764485	0
s_b .098	Reset all	Calculate		

Sobel test is used to check the mediation role of creative synergy on group conflict and work performance. Sobel test values P = 0.000, t = 8.2145 shows that there is partial mediation of creative synergy. Results of Sobel test supported hypothesis H4.

DISCUSSION AND CONCLUSION

Present research study proposes the relationship between group cohesiveness and conflict, creative synergy and work performance. The results of the study fully supported the H1 hypothesis that is group cohesiveness positively predicts the work performance. Previous researches shows that group cohesiveness leads to performance (Chang and Bordia 2001).The H2 hypothesis is also fully supported by the results that is group conflict predicts the work performance (R-square adjusted = 39.8%). As, data is collected during the second last month of the year. in which IT professionals have to take some big decisions due to closing of financial records and heavy workload which results in creativity and high work performance. Present research findings entirely support the H3 hypothesis that is creative synergy mediates the relationship between group cohesiveness and work performance. In previous research (Curseu and Schruijer 2012) concluded that group norms that stimulate collaboration and participation create group synergy that ultimately leads to the emergence of complex collective cognitive structures, better decision quality, and higher group rationality. H4 hypothesis fully supported by analysis that is creative synergy mediates the relationship between group conflict and work performance.

RECOMMENDATIONS AND LIMITATIONS

The study sample size is not large enough due to unfavourable weather condition and financial restrictions. The similar study can be conducted in future with greater sample size. The present article only investigates the group cohesiveness and conflict with creative synergy and work performance while the future research can be conducted with other social science variables such as group performance, group productivity, group outcomes and behavior which are not included in current study. Same study can be conducted in other industrial setup such as banking sector, FMCG's, telecommunication sector and engineering sector.

IMPLICATIONS

This study can utilize by executives' members and IT professionals in different departments of software industry like business development, maintenance publication of software and solve HR related problems in Pakistan and global setup.

REFERENCES

[1] Amabile, T. M. and J. Pillemer (2012). "Perspectives on the social psychology of creativity." The Journal of Creative Behavior46(1): 3-15.

[2] Anderson, et al. (2002). "Formal organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes." Journal of management28(6): 787-810.

[3] Ashkanasy, N. M. and C. S. Daus (2005). "Rumors of the death of emotional intelligence in organizational behavior are vastly exaggerated." Journal of Organizational Behavior26(4): 441-452.

[4] Bartis, E. and N. Mitev (2008). "A multiple narrative approach to information systems failure: a successful system that failed." European Journal of Information Systems17(2): 112-124.

[5] Beal, D. J., et al. (2003). "Cohesion and performance in groups: a meta-analytic clarification of construct relations." Journal of Applied Psychology88(6): 989.

[6] Beghetto, R. A. (2006). "Creative self-efficacy: Correlates in middle and secondary students." Creativity Research Journal18(4): 447-457.

[7] Beghetto, R. A. (2007). "Does creativity have a place in classroom discussions? Prospective teachers' response preferences." Thinking skills and creativity2(1): 1-9.

[8] Bowen, D. E. and D. A. Waldman (1999). "Customer-driven employee performance." Pulakos (Eds.), The changing nature of performance154: 191.

[9] Burlingame, G. M., et al. (2001). "Cohesion in group psychotherapy." Psychotherapy: Theory, Research, Practice, Training38(4): 373.

[10] Campbell, B., et al. (2002). "Assessing the performance of natural resource systems." Conservation ecology5(2): 22.

[11] Carmeli, A. and J. Schaubroeck (2007). "The influence of leaders' and other referents' normative expectations on individual involvement in creative work." The Leadership Quarterly18(1): 35-48.

[12] Chang, A. and P. Bordia (2001). "A multidimensional approach to the group cohesion-group performance relationship." Small Group Research32(4): 379-405.

[13] Chiocchio, F. and H. Essiembre (2009). "Cohesion and performance: A meta-analytic review of disparities between project teams, production teams, and service teams." Small Group Research.

[14] Choi, J. N. (2004). "Individual and contextual predictors of creative performance: The mediating role of psychological processes." Creativity Research Journal16(2-3): 187-199.

[15] Coffman, C., et al. (2002). Follow this path: How the world's greatest organizations drive growth by unleashing human potential, Business Plus.

[16] Cote, S. and C. T. Miners (2006). "Emotional intelligence, cognitive intelligence, and job performance." Administrative science quarterly51(1): 1-28.

[17] Curseu, P. and S. Schruijer (2012). "Normative interventions, emergent cognition and decision rationality in ad hoc and established groups." Management Decision50(6): 1062-1075.

[18] Curşeu, P. L. (2006). "Emergent states in virtual teams: a complex adaptive systems perspective." Journal of Information Technology21(4): 249-261.

[19] Curşeu, P. L., et al. (2010). "The use of cognitive mapping in eliciting and evaluating group cognitions." Journal of Applied Social Psychology40(5): 1258-1291.

[20] Curşeu, P. L., et al. (2007). "The effects of groups' variety and disparity on groups' cognitive complexity." Group Dynamics: Theory, Research, and Practice11(3): 187.

[21] De Dreu, C. K. (2006). "When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams." Journal of management32(1): 83-107.

[22] De Dreu, C. K. and E. Van de Vliert (1997). Using conflict in organizations, Sage.

[23] De Dreu, C. K. and L. R. Weingart (2003). "A contingency theory of task conflict and performance in groups and

organizational teams." International handbook of organizational teamwork and cooperative working88(4): 151-166.
[24] De Dreu, C. K. and L. R. Weingart (2003). "Task versus relationship conflict, team performance, and team member satisfaction: a meta-analysis." Journal of Applied Psychology88(4): 741.
[25] Dictionary, O. A. L. (2010). UK: Oxford University Press.
[26] Ellis, C. M. and A. Sorensen (2007). "Assessing employee engagement: the key to improving productivity." Perspectives15(1): 1-9.
[27] Evans, C. R. and K. L. Dion (2012). "Group cohesion and performance a meta-analysis." Small Group Research43(6): 690-701.
[28] Forsyth, D. R. (2006). "Group dynamics (international student edition)." Belmont, CA: Thomson/Wadsworth.
[29] Frese, M., et al. (2000). "Control and complexity in work and the development of personal initiative (PI): A four-wave longitudinal structural equation model of occupational socialization." University of Giessen: Manuscript submitted for publication.
[30] Frye, M. B. (2004). "Equity-based compensation for employees: firm performance and determinants." Journal of Financial Research27(1): 31-54.
[31] Giardini, A. and M. Frese (2006). "Reducing the negative effects of emotion work in service occupations: emotional competence as a psychological resource." Journal of occupational health psychology11(1): 63.
[32] Giardini, A. and M. Frese (2008). "Linking service employees' emotional competence to customer satisfaction: a multilevel approach." Journal of Organizational Behavior29(2): 155-170.
[33] Goerzen, A. and P. W. Beamish (2005). "The effect of alliance network diversity on multinational enterprise performance." Strategic management journal26(4): 333-354.
[34] Gong, Y., et al. (2009). "Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy." Academy of management Journal52(4): 765-778.
[35] Greer, L. L. and K. A. Jehn (2007). "The pivotal role of negative affect in understanding the effects of process conflict on group performance." Research on managing groups and teams10: 23-45.
[36] Guillen, M. F. (2000). "Business groups in emerging economies: A resource-based view." Academy of management Journal43(3): 362-380.
[37] Gully, S. M., et al. (1995). "A meta-analysis of cohesion and performance effects of level of analysis and task interdependence." Small Group Research26(4): 497-520.
[38] Gully, S. M., et al. (2012). "A meta-analysis of cohesion and performance effects of level of analysis and task interdependence." Small Group Research43(6): 702-725..
[39] Haats, T. (2012). Creative Synergy in Interdisciplinary Design Collaboration: Using Speedstorming to Generate Ideas, Carleton University Ottawa .
[40] Harun, M. Z. M. B. and R. B. Mahmood (2012). "The relationship between group cohesiveness and performance: An empirical study of cooperatives movement in Malaysia." International Journal of Cooperative Studies1(1): 15-20.
[41] Harwood, C. (2013). "Synergy Matters: Working with Systems in the Twenty-first Century." Kybernetes.
[42] Heintzman, R. and B. Marson (2005). "People, service and trust: is there a public sector service value chain?" International Review of Administrative Sciences71(4): 549-575.
[43] Hertel, G. (2011). "Synergetic effects in working teams." Journal of Managerial Psychology26(3): 176-184.
[44] Hinds, P. J. and D. E. Bailey (2003). "Out of sight, out of sync: Understanding conflict in distributed teams." Organization science14(6): 615-632.
[45] Holtzman, Y., et al. (2011). "Diversify your teams and collaborate: because great minds don't think alike." Journal of Management Development30(1): 75-92.
[46] Hon, A. H. and W. W. Chan (2013). "The effects of group conflict and work stress on employee performance." Cornell Hospitality Quarterly54(2): 174-184.
[47] Hornaday, A. (2014). "George Clooney Uses His Star Power to Keep Part of Old Hollywood Alive." The Washington Post6.
[48] Hornsey, M. J., et al. (2009). "Group processes and outcomes in group psychotherapy: is it time to let go of "cohesiveness"?" International Journal of Group Psychotherapy59(2): 267-278.
[49] Hsu, J.-L. and H.-W. Chou (2009). "The effects of communicative genres on intra-group conflict in virtual student teams." International Journal of Distance Education Technologies (IJDET)7(1): 1-22.
[50] Huang, C.-C. (2009). "Knowledge sharing and group cohesiveness on performance: An empirical study of technology R&D teams in Taiwan." Technovation29(11): 786-797.
[51] Ilgen, D. R. and J. Schneider (1991). "Performance measurement: A multi-discipline view." International review of industrial and organizational psychology6: 71-108.
[52] Jambrek, I. and I. I. Penić (2008). "Upravljanje ljudskim potencijalima u poduzećima–ljudski faktor, motivacija zaposlenika kao najvažniji čimbenici uspješnosti poslovanja poduzeća." Zbornik Pravnog fakulteta Sveučilišta u Rijeci29(2): 1181-1206.
[53] Jaussi, K. S., et al. (2007). "I am, I think I can, and I do: The role of personal identity, self-efficacy, and cross-application of experiences in creativity at work." Creativity Research Journal19(2-3): 247-258.
[54] Jehn, K. A. (1997). "A qualitative analysis of conflict types and dimensions in organizational groups." Administrative science quarterly: 530-557.
[55] Jehn, K. A. and C. Bendersky (2003). "Intragroup conflict in organizations: A contingency perspective on the conflict-outcome relationship." Research in organizational behavior25: 187-242.
[56] Jehn, K. A., et al. (2008). "The effects of conflict types, dimensions, and emergent states on group outcomes." Group Decision and Negotiation17(6): 465-495.
[57] Jehn, K. A. and E. A. Mannix (2001). "The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance." Academy of management Journal44(2): 238-251.
[58] Jehn, K. A., et al. (2010). "The effects of conflict asymmetry on work group and individual outcomes." Academy of management Journal53(3): 596-616.
[59] Johnson, J. E., et al. (2005). "Group climate, cohesion, alliance, and empathy in group psychotherapy: Multilevel structural equation models." Journal of Counseling Psychology52(3): 310.
[60] Kankanhalli, A., et al. (2006). "Conflict and performance in global virtual teams." Journal of Management Information Systems23(3): 237-274.
[61] Kellett, J. B., et al. (2002). "Empathy and complex task performance: Two routes to leadership." The Leadership Quarterly13(5): 523-544.
[62] Kellett, J. B., et al. (2006). "Empathy and the emergence of task and relations leaders." The Leadership Quarterly17(2): 146-162.
[63] Khattak, J. K., et al. (2011). "Occupational stress and burnout in Pakistan's banking sector." African Journal of Business Management5(3): 810.
[64] Kochan, T., et al. (2003). "The effects of diversity on business performance: Report of the diversity research network." Human resource management42(1): 3-21.
[65] Kotlyar, I. and L. Karakowsky (2006). "Leading conflict? Linkages between leader behaviors and group conflict." Small Group Research37(4): 377-403.
[66] Kranton, R., et al. (2012). Identity, group conflict, and social preferences, Working paper.
[67] Krejcie, R. V. and D. W. Morgan (1970). "Determining sample size for research activities." Educ psychol meas.

[68] Kurtzberg, T. R. (2005). "Feeling creative, being creative: An empirical study of diversity and creativity in teams." Creativity Research Journal17(1): 51-65.
[69] Kurtzberg, T. R. and T. M. Amabile (2001). "From Guilford to creative synergy: Opening the black box of team-level creativity." Creativity Research Journal13(3-4): 285-294.
[70] Langfred, C. W. (1998). "Is group cohesiveness a double-edged sword? An investigation of the effects of cohesiveness on performance." Small Group Research29(1): 124-143.
[71] Larson, J. R. (2007). "Deep diversity and strong synergy modeling the impact of variability in members' problem-solving strategies on group problem-solving performance." Small Group Research38(3): 413-436.
[72] Larson, J. R. (2010). In search of synergy in small group performance, Psychology Press.
[73] Lewis, T. L. and W. J. Smith (2008). Building software engineering teams that work: The impact of dominance on group conflict and performance outcomes. 2008 38th Annual Frontiers in Education Conference, IEEE.
[74] Li, Y., et al. (2012). "A multi-level study of emergent group leadership: Effects of emotional stability and group conflict." Asia Pacific Journal of Management29(2): 351-366.
[75] Logan, M. S. and D. C. Ganster (2005). "An experimental evaluation of a control intervention to alleviate job-related stress." Journal of management31(1): 90-107.
[76] Lohan, G., et al. (2014). An Investigation into Time Pressure, Group Cohesion and Decision Making in Software Development Groups, ACIS.
[77] Matsuo, M. (2006). "Customer orientation, conflict, and innovativeness in Japanese sales departments." Journal of Business Research59(2): 242-250.
[78] Mayer, J. D., et al. (2008). "Emotional intelligence: new ability or eclectic traits?" American psychologist63(6): 503.
[79] Morrison, E. W. and C. C. Phelps (1999). "Taking charge at work: Extrarole efforts to initiate workplace change." Academy of management Journal42(4): 403-419.
[80] Motowidlo, S. J. and M. J. Schmit (1999). "Performance assessment in unique jobs." Pulakos (Eds.), The changing nature of performance: 56-86.
[81] Motowildo, S. J., et al. (1997). "A theory of individual differences in task and contextual performance." Human performance10(2): 71-83.
[82] Mullen, B. and C. Copper (1994). "The relation between group cohesiveness and performance: An integration." Psychological bulletin115(2): 210.
[83] Nickerson, R. S. (1999). "20 Enhancing Creativity." Handbook of creativity: 392.
[84] Norcross, J. C. (2002). Psychotherapy relationships that work: Therapist contributions and responsiveness to patients, Oxford University Press.
[85] Offermann, L. R., et al. (2004). "The relative contribution of emotional competence and cognitive ability to individual and team performance." Human performance17(2): 219-243.
[86] Owen, J., et al. (2013). "Alliance and group cohesion in relationship education." Family process52(3): 465-476.
[87] Pan, P. J. and C. W. Lin (2004). "Members' perceptions of leader behaviors, group experiences, and therapeutic factors in group counseling." Small Group Research35(2): 174-194.
[88] Paulus, P. B. and H.-C. Yang (2000). "Idea generation in groups: A basis for creativity in organizations." Organizational behavior and human decision processes82(1): 76-87.
[89] Pelled, L. H. (1996). "Demographic diversity, conflict, and work group outcomes: An intervening process theory." Organization science7(6): 615-631.
[90] Perrin, T. (2003). The 2003 Towers Perrin talent report: Working today: Understanding what drives employee engagement, Stamford, CT.
[91] Pescosolido, A. T. and R. Saavedra (2012). "Cohesion and Sports Teams A Review." Small Group Research43(6): 744-758.
[92] Quoidbach, J. and M. Hansenne (2009). "The impact of trait emotional intelligence on nursing team performance and cohesiveness." Journal of Professional Nursing25(1): 23-29.
[93] Rafferty, A., et al. (2005). What Makes a Good Employer? International Council of Nurses, Geneva.
[94] Rahim, M. (2002). "Toward a theory of managing organizational conflict." International journal of conflict management13(3): 206-235.
[95] Ram, N., et al. (2011). "Sustainable Rural Development though Women Participation in SMEs Business Growth in Sindh." Journal of Sustainable Development4(1): 240.
[96] Rashidi, Z. and A. A. Jalbani (2009). "Job Stress among Software Professionals in Pakistan: A Factor analytic Study." J Independent Stud Res (MSSE)7: 1-12.
[97] Reimer, W. L. and T. Mathieu (2006). "Therapeutic Factors in Group Treatment as Perceived by Sex Offenders: A "Consumers' Report"." Journal of Offender Rehabilitation42(4): 59-73.
[98] Roe, R. A. (1999). "Work performance: A multiple regulation perspective." International review of industrial and organizational psychology14: 231-336.
[99] Roseman, I. J., et al. (1994). "Phenomenology, behaviors, and goals differentiate discrete emotions." Journal of Personality and Social Psychology67(2): 206.
[100] Rosh, L., et al. (2012). "Too close for comfort? Distinguishing between team intimacy and team cohesion." Human Resource Management Review22(2): 116-127.
[101] Schachter, S., et al. (1968). "An experimental study of cohesiveness and productivity." Group Dynamics (New York: Harper and Row, 1968): 192-198.
[102] Schwanda, V. L., et al. (2011). Temporal patterns of cohesiveness in virtual groups. Proceedings of the ACM 2011 conference on Computer supported cooperative work, ACM.
[103] Shin, S. J. and J. Zhou (2007). "When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator." Journal of Applied Psychology92(6): 1709.
[104] Simons, T. L. and R. S. Peterson (2000). "Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust." Journal of Applied Psychology85(1): 102.
[105] Soboroff, S. D. (2012). "Group size and the trust, cohesion, and commitment of group members."
[106] Stamper, C. L. and M. C. Johlke (2003). "The impact of perceived organizational support on the relationship between boundary spanner role stress and work outcomes." Journal of management29(4): 569-588.
[107] Stevens, C. K. and M. E. Gist (1997). "Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: what are the mechanisms?" Personnel psychology50(4): 955-978.
[108] Stuart, T. E. (2000). "Interorganizational alliances and the performance of firms: A study of growth and innovation rates in a high-technology industry." Strategic management journal: 791-811.
[109] Taube-Schiff, M., et al. (2007). "Group cohesion in cognitive-behavioral group therapy for social phobia." Behaviour Research and Therapy45(4): 687-698.
[110] Teclemichael Tessema, M. and J. L. Soeters (2006). "Challenges and prospects of HRM in developing countries: testing the HRM–performance link in the Eritrean civil service." The international journal of human resource management17(1): 86-105.
[111] Tierney, P. and S. M. Farmer (2002). "Creative self-efficacy: Its potential antecedents and relationship to creative performance." Academy of management Journal45(6): 1137-1148.
[112] Tierney, P. and S. M. Farmer (2004). "The Pygmalion process and employee creativity." Journal of management30(3): 413-432.

[113] Van Dyne, L. and J. A. LePine (1998). "Helping and voice extra-role behaviors: Evidence of construct and predictive validity." Academy of management Journal41(1): 108-119.
[114] Wang, Y.-S. and T.-C. Huang (2009). "The relationship of transformational leadership with group cohesiveness and emotional intelligence." Social Behavior and Personality: an international journal37(3): 379-392.
[115] West, M. A. (2002). "Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups." Applied psychology51(3): 355-387.
[116] Yalom and M. Leszcz (1995). The theory and practice of group therapy, New York: Basic Books.
[117] Yalom and M. Leszcz (2005). Theory and practice of group psychotherapy, Basic books.
[118] Yang, F., et al. (2010). "Global survey of escape from X inactivation by RNA-sequencing in mouse." Genome research20(5): 614-622.
[119] Yiu, D. W., et al. (2007). "Business groups: An integrated model to focus future research." Journal of Management Studies44(8): 1551-1579.

★★★